Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Semester One Final Exam Free Response (A)

1. Explain London Forces and what main two factors contribute to the strength of this bond. Draw a picture of how three Neon molecules would orient themselves if placed in the same container and how they would exhibit London Forces.
2. Given the following: determine based on periodic laws which circle represents: calcium atom, calcium ion, barium atom, barium ion. Assign each circle the correct name.

Name\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_

1. Put the following in order of increasing ionization energy:

F, Ca, Fr, N

1. Explain how ions form. Use potassium and fluoride as examples. Identify which will become a cation and which will become an anion. Identify the amount of electrons gained/lost for each.
2. Write the electron configuration for oxygen the ion.
3. Which group of elements in the Periodic Table is known as the halogens?
4. Draw a Lewis Dot Structure for CO32-. Explain how the octet rule is fulfilled. Identify if the molecule is polar or nonpolar
5. Explain how ions are held together in an covalent bond. Give an example of a covalent bond.
6. About what percentage of the periodic table is classified as metalloids?
7. Draw a Lewis Dot structure of ammonia, NH3 and indicate if the bond is polar or nonpolar.

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Semester One Final Exam Free Response (B)

1. Explain dipole dipole forces and what main two factors contribute to the strength of this bond. Draw a picture of how three HCl molecules would orient themselves if placed in the same container and how they would exhibit dipole dipole forces.
2. Given the following: determine based on periodic laws which circle represents: phosphorous atom, phosphide ion, nitride ion, nitrogen atom. Assign each circle the correct name.

Name\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_

1. Put the following in order of decreasing electronegativity:

N, F, Cs, P

1. Explain how ions form. Use lithium and sulfide as examples. Identify which will become a cation and which will become an anion. Identify the amount of electrons gained/lost for each.
2. Write the electron configuration for aluminum the ion.
3. Which group of elements in the Periodic Table is known as the Halogens?
4. Draw a Lewis Dot Structure for CF4. Explain how the octet rule is fulfilled. Identify if the bond is polar or nonpolar.
5. Explain how ions are held together in a covalent bond. Give an example of an covalent bond.
6. About what percentage of the periodic table is classified as nonmetals?
7. Draw a Lewis Dot structure of ammonia, PCl3 and indicate if the bond is polar or nonpolar.